CABLE ADDRESS: NAS
WASHINGTON

NATIONAL ACADEMY OF SCIENCES
NATIONAL RESEARCH COUNCIL
OF THE UNITED STATES OF AMERICA

SPACE SCIENCE BOARD

September 15, 1960

Academician A. A. Blagonravov
Academy of Sciences of the USSR
Moscow, USSR

Dear Professor Blagonravov:

During our last COSPAR Bureau meeting in Stockholm, I mentioned informally that some United States scientists were concerned about the possibility of inadvertent contamination of the surface of the moon or planets by accidental destruction of radioactive electric power sources that might be used in connection with certain scientific experiments that have been proposed.

In particular, I mentioned the lunar seismograph experiment which I believe was described by Dr. Frank Press at Helsinki. There are strong engineering reasons to use a radioactive power supply for this experiment because, with a given weight limitation, it will extend the life of the experiment to several months, as compared with one or two weeks for chemical batteries. This particular power supply, if used, would be very small (only about six kilograms total weight) and probably would be radioactive polonium, having a half-life of only about 140 days. Furthermore it would have to be substantially packaged so that only the most violent impact would be able to release and disperse any radioactive material, and even then it would not significantly affect more than a very small portion of the lunar surface. The emission would be predominantly alpha radiation and would decay to natural background level within a few years. Our scientists are currently reexamining these plans and, of course, they may be subject to change. I should hope to have more definite information on this matter by the end of the year.

Our principal concern, however, is with larger power supplies that might follow later on. If I remember our discussion correctly, you stated that Soviet scientists are also concerned about this matter. The purpose of this letter is to suggest that we discuss this subject in more detail at the time of the next COSPAR meeting, either formally or informally, as you prefer. The objective of such a discussion would be to

explore the feasibility and desirability of formulating some resolution that might be promulgated through COSPAR, limiting the amount and kind of radioactive materials to be used in lunar or planetary probes until such time as thorough radiochemical investigations of the surfaces concerned will have been made.

If after considering the matter you believe such a discussion would be useful, please let me know so that I can arrange to have an appropriate expert on the subject be present at the meeting.

Very truly yours,

Richard W. Porter
U.S. National Academy of Scienc
Delegate to COSPAR

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